Subject index

A

ACE inhibition 219
13-Acetate (4β-PMA) 510
Acetylcholine 473, 543
Acidification 143
Action potential 47
Action potential upstroke 121
Actomyosin 550
A current 71
Adenosine 86, 225
Adenosine agonists 225
Adenosine antagonists 225
Adenosine 5'-O-(3-thiotriphosphate)(ATP[γS]) 129
Adenosine receptors 225
Adenosine triphosphate (ATP) 33
Aging 80
Aluminum (Al^{3+}) 295
Amiloride 24, 225, 543
Amino acid receptors 481
Amino acids 524
(γ-aminobutyric acid (GABA) 244
Ammonia 524
Amphotericin B 543
AMP-PNP 187
Angiotensin I 42
Angiotensin II 151, 553
Angiotensin II regulation 143
Angiotensin-converting enzyme inhibition 219
Anit-IL-1β antiserum 365
Anoxia 547
9-Anthracene carboxylic acid (9-AC) 203
Anticonstrictor effect 264
Antidiuretic hormone 1
Antioxidant defences 432
Apical membrane 210
Ar 178
ATP 129, 181, 187
ATP intracellular 184
ATP-activated channels 129, 492
ATP-activated current 492
ATP-analogue 181
ATPase 295
ATP-inhibited K^+ current 110
ATPγS 181
ATP-sensitive K^+ channel 187
Atrioventricular node 121

B

Ba^{2+} 9, 317
Baclofen ($GABA_B$ agonist) 244
Basolateral membrane 56
Batrachotoxin 309
BC3H1 277
Benzocaine 309
Blood flow 190, 264
Blood-brain barrier permeability 86
Boltzmann distribution terms 277
Bradycardic agents 64
Brain Na^{2+} channels 309
Bretylium 210
8-Bromo-adenosine-3',5'-cyclic monophosphate (8-BrcAMP) 1
Brush-border membrane 252
BTX-modified Na^+ channels 309
Bumetanide 24, 543

C

Ca^{2+} 270
Ca^{2+}, caged 550
Ca^{2+}, intracellular 463
Ca^{2+} concentration 533
Ca^{2+} currents 510
Ca^{2+} dependent Cl^- currents 473
Ca^{2+} dependent K^+ currents 473
Ca^{2+} entry 325
Ca^{2+} extrusion 325
Ca^{2+} mobilization 455
Ca^{2+} oscillations 233, 455
Ca^{2+} release 295
Ca^{2+} sensitiser 550
Ca^{2+} sensitivity of the myofilaments 550
Ca^{2+} signals 181
Ca^{2+} spike initiation 355
Ca^{2+} stores 233, 355
Ca^{2+}-activated K^+ channels 378
Ca^{2+}-dependent Cl^- currents 473
Ca^{2+}-dependent K channel 9
Ca^{2+}-dependent K^+ currents 473
Ca^{2+}/EGTA buffers 348
Ca^{2+}-regulated force 301
$[Ca^{2+}]_i$ 1, 162, 184, 348
Ca distribution, muscle fibers 102
Ca, Intracellular 414
Caffeine 422, 473
Caged Ca^{2+} 550
Caged-Ca^{2+} compound 169
Calcitonin 1
Calcium 102
Calcium channel 463
Calcium channels 348, 510
Calcium current 389
Calcium current kinetics 277
Calcium currents 277
Calcium homeostasis 71
Calcium influx 33
Calcium ionophore 80
Calcium release 517
Calcium spikes 355
Calcium store depletion 33
Calcium variations 162
Calcium-activated potassium channels 9
Calcium-sensitive potassium channels 33
Caldesmon 301
Calibration gases 178
Calium oscillations 244
Call pH 143
Calmodulin binding protein 301
Calponin 301
Calyculin A 510
cAMP 1, 129, 143, 389, 414
cAMP analogue, 8-(4-chlorophenylthio)cAMP 414
Carboxy-seminaphthorhodafluor (SNARF) 270
Carboxy-SNARF-1 332
Cardiac cells 169
Cardiac electrophysiological properties 553
Cardiac muscle 550
Cardiac Na^+ channels 487
Cardiac pacemaker 437
Cardiac repolarization 553
Cardiovascular enter 556
Catalase 432
Cationic channel 56
Caudal ventrolateral medullary depressor area 556
Caudate nucleus 187
CCK receptor 455
Cell membrane potential 151
Cell pH 143, 151
Cell potential 143, 151
Central nervous system 481
Cerebral blood vessels 86
Cerebral circulation 556
Cerebrospinal fluid 317
Cerebrovascular circulation 556
Cervical sympathetic nerve 556
cGMP 129, 547
cGMP-dependent metabolic pathways 71
CgTx 348
Channel opening 56
Channel selectivity sequence 203
Channel structure 500
Channels, ionic 437
Channels, voltage dependence 406
Charybdotoxin 9, 17, 33, 473
Chinese hamster ovary cell line 309
Chloride channel 203
Chloride channel regulation 80
Chloride current 181, 184
Chochlea 56
Cholecystokinin (CCK) 455
Cholecystokinin-octapeptide 233
Cholera toxin 80
Choroid plexus 317
Choroid plexus epithelial cells 317
Chromaffin cells 348
Chromatic-type neuron 373
Circadian core temperature rhythm 450
Circadian rhythm 373
Cl^- channel blocker 473
Cl^- channels 543
Cl^- currents 473
Clonal muscle cells 277
Cloned α-subunit Na^+ channels 309
CO_2 178
Cold load 450
Collecting duct 225, 463
Compliance 289
Computerised image analysis 86
Concentration-jump method 437
Confocal laser scanning microscopy 343
Confocal microscopy 332
μ-Conotoxin 136
μ-Conotoxin (μCTX) 136
ω-Conotoxin GVIA 348
Contractile machinery 270
Contraction 270, 295, 473
Coronary smooth muscle cells 110
Corticotropin releasing hormone 244
Cotransporter 381
cRNA-injected *Xenopus* oocytes 136
Cross-bridge states 550
Cs^+ 317

Subject index

A

ACE inhibition 219
13-Acetate (4β-PMA) 510
Acetylcholine 473, 543
Acidification 143
Action potential 47
Action potential upstroke 121
Actomyosin 550
A current 71
Adenosine 86, 225
Adenosine agonists 225
Adenosine antagonists 225
Adenosine 5'-O-(3-thiotriphosphate)(ATP[γS]) 129
Adenosine receptors 225
Adenosine triphosphate (ATP) 33
Aging 80
Aluminum (Al^{3+}) 295
Amiloride 24, 225, 543
Amino acid receptors 481
Amino acids 524
(γ-aminobutyric acid (GABA) 244
Ammonia 524
Amphotericin B 543
AMP-PNP 187
Angiotensin I 42
Angiotensin II 151, 553
Angiotensin II regulation 143
Angiotensin-converting enzyme inhibition 219
Anit-IL-1β antiserum 365
Anoxia 547
9-Anthracene carboxylic acid (9-AC) 203
Anticonstrictor effect 264
Antidiuretic hormone 1
Antioxidant defences 432
Apical membrane 210
Ar 178
ATP 129, 181, 187
ATP intracellular 184
ATP-activated channels 129, 492
ATP-activated current 492
ATP-analogue 181
ATPase 295
ATP-inhibited K^+ current 110
ATPγS 181
ATP-sensitive K^+ channel 187
Atrioventricular node 121

B

Ba^{2+} 9, 317
Baclofen ($GABA_B$ agonist) 244
Basolateral membrane 56
Batrachotoxin 309
BC3H1 277
Benzocaine 309
Blood flow 190, 264
Blood-brain barrier permeability 86
Boltzmann distribution terms 277
Bradycardic agents 64
Brain Na^{2+} channels 309
Bretylium 210
8-Bromo-adenosine-3',5'-cyclic monophosphate (8-BrcAMP) 1
Brush-border membrane 252
BTX-modified Na^+ channels 309
Bumetanide 24, 543

C

Ca^{2+} 270
Ca^{2+}, caged 550
Ca^{2+}, intracellular 463
Ca^{2+} concentration 533
Ca^{2+} currents 510
Ca^{2+} dependent Cl^- currents 473
Ca^{2+} dependent K^+ currents 473
Ca^{2+} entry 325
Ca^{2+} extrusion 325
Ca^{2+} mobilization 455
Ca^{2+} oscillations 233, 455
Ca^{2+} release 295
Ca^{2+} sensitiser 550
Ca^{2+} sensitivity of the myofilaments 550
Ca^{2+} signals 181
Ca^{2+} spike initiation 355
Ca^{2+} stores 233, 355
Ca^{2+}-activated K^+ channels 378
Ca^{2+}-dependent Cl^- currents 473
Ca^{2+}-dependent K channel 9
Ca^{2+}-dependent K^+ currents 473
Ca^{2+}/EGTA buffers 348
Ca^{2+}-regulated force 301
$[Ca^{2+}]_i$ 1, 162, 184, 348
Ca distribution, muscle fibers 102
Ca, Intracellular 414
Caffeine 422, 473
Caged Ca^{2+} 550
Caged-Ca^{2+} compound 169
Calcitonin 1
Calcium 102
Calcium channel 463
Calcium channels 348, 510
Calcium current 389
Calcium current kinetics 277
Calcium currents 277
Calcium homeostasis 71
Calcium influx 33
Calcium ionophore 80
Calcium release 517
Calcium spikes 355
Calcium store depletion 33
Calcium variations 162
Calcium-activated potassium channels 9
Calcium-sensitive potassium channels 33
Caldesmon 301
Calibration gases 178
Calium oscillations 244
Call pH 143
Calmodulin binding protein 301
Calponin 301
Calyculin A 510
cAMP 1, 129, 143, 389, 414
cAMP analogue, 8-(4-chlorophenylthio)cAMP 414
Carboxy-seminaphthorhodafluor (SNARF) 270
Carboxy-SNARF-1 332
Cardiac cells 169
Cardiac electrophysiological properties 553
Cardiac muscle 550
Cardiac Na^+ channels 487
Cardiac pacemaker 437
Cardiac repolarization 553
Cardiovascular enter 556
Catalase 432
Cationic channel 56
Caudal ventrolateral medullary depressor area 556
Caudate nucleus 187
CCK receptor 455
Cell membrane potential 151
Cell pH 143, 151
Cell potential 143, 151
Central nervous system 481
Cerebral blood vessels 86
Cerebral circulation 556
Cerebrospinal fluid 317
Cerebrovascular circulation 556
Cervical sympathetic nerve 556
cGMP 129, 547
cGMP-dependent metabolic pathways 71
CgTx 348
Channel opening 56
Channel selectivity sequence 203
Channel structure 500
Channels, ionic 437
Channels, voltage dependence 406
Charybdotoxin 9, 17, 33, 473
Chinese hamster ovary cell line 309
Chloride channel 203
Chloride channel regulation 80
Chloride current 181, 184
Chochlea 56
Cholecystokinin (CCK) 455
Cholecystokinin-octapeptide 233
Cholera toxin 80
Choroid plexus 317
Choroid plexus epithelial cells 317
Chromaffin cells 348
Chromatic-type neuron 373
Circadian core temperature rhythm 450
Circadian rhythm 373
Cl^- channel blocker 473
Cl^- channels 543
Cl^- currents 473
Clonal muscle cells 277
Cloned α-subunit Na^+ channels 309
CO_2 178
Cold load 450
Collecting duct 225, 463
Compliance 289
Computerised image analysis 86
Concentration-jump method 437
Confocal laser scanning microscopy 343
Confocal microscopy 332
μ-Conotoxin 136
μ-Conotoxin (μCTX) 136
ω-Conotoxin GVIA 348
Contractile machinery 270
Contraction 270, 295, 473
Coronary smooth muscle cells 110
Corticotropin releasing hormone 244
Cotransporter 381
cRNA-injected *Xenopus* oocytes 136
Cross-bridge states 550
Cs^+ 317

Cultured retinal pericytes 9
Cyanide 187
Cyclic adenosine monophosphate (cAMP) 143, 295
Cytochalasin 463
Cytoplasmic pH 332
Cytotoxic T lymphocytes 422

D

Deactivation kinetics of I_K 553
Deferoxamine 295
Delayed rectifier 553
Developmental changes 389
Diabetes 444
Diabetic retinopathy/microangiopathy 9
Diazoxide 187
3',5'-dichlorodiphenylamine-2-carboxylic acid (DCDPC) 56
DIDS 24, 143
Dihydropyridine (DHP) 348
Dihydropyridine receptor 517
Dihydropyridine(DHP)-sensitive currents 277
4,4'-diisothiocyanatostilbene-2,2'-disulphonic acid (DIDS) 252
Diltiazem 463
1,3-Dipropyl-8-(2-amino-4-chloro-phenyl)-xanthine (PACPX) 225
Dismutases 432
Distribution of $[Ca^{2+}]_i$ 102
DM-nitrophen 169
DOCA-salt hypertrophied rat 47
Dopamine 244, 492
Down-regulation 547
Drosophila larval muscle 71

E

^{86}Eb efflux 33
EC coupling 277
Elasticity 289
Electrophysiology 210
Embryo fibroblasts 17
Embryonic kidney cell line (293 cells) 169
Endothelial cells 184
Endothelium 181
Endothelium sensitivity 264
Endothelium-dependent dilatation 264
Enzyme secretion 455
Epithelia 343
Epithelial cells 317, 533
Epithelial membranes 210
Epithelium 317
Epithelium tracheal 543
Erythropoietin human recombinant 157
Excitatory amino acid receptors 481
Exercise 257
Exercise training 444
Exocrine cells 325
Exocytosis 348
Extracellular osmolality 463
Extracellular Ca^{2+} 517

F

Facilitated giga-seal formation 487
Fast-twitch muscle fibres 80
Fatigue 102
Fatiguing stimulation 102
Fetal arterial blood temperature 190
Fetal core temperature 190
Fetal myotubes 517
Fever 365
Fibre type transition 289
FITC-dextran 86
Flash photolysis 169
Flufenamic acid 56
Fluorescence 24
Fluorescence microscopy 86
Fluorescent dye, RH160 210
Fluorescent imaging 102
Fluorescent photometry 162
Fluoride 295
Fluoroaluminate 295
Follicle-associated epithelium (FAE) 343
Force 301
Force/velocity relationship 289
Formycin B 381
Forskolin 295, 389
Free radical-mediated processes 432
Frequenin 71
Fura-2 162, 184, 517, 533
Fura-2-loaded cat chromaffin cells 348
Furnidipine 348
Furosemide 42

G

G protein pathways 80
Gadolinium (Gd^{3+}) 463
Gas mixtures 178
Giga-seal formation 487
Glioma cells (U 118 MG) 332
Glomerular filtration rate (GFR) 219
Glucagon 1
Glucose transporter proteins (GLUT1 and GLUT4) 444
Glucose utilisation 444
Glucose-6-phosphate 257
Glutamate receptors 197
Glutamine synthetase 524
γ-Glutamyl transpeptidase 432
γ-Glutamylcysteine synthetase 432
Glutathione 378, 432
Glutathione peroxidase 432
Glutathione reductase 432
Glutathione-related enzymes 432
Glycerol in cardiac tissue 96
Glycerol release 96
Glycerol-3-phosphate 96
G-protein 295
Growth hormone 414
Growth-hormone-releasing hormone 414
Guanosine 381
Guanosine 5'-O-(2-thiodi-phosphate)(GDP[βS]) 492
Guanosine 5'-triphosphate (GTP) 492
Guanylyl cyclase 71
Gut-associated lymphoid tissues 343

H

He 178
Heart 96
Heart cells 389, 547
Heart transplant rejection 422
Heat dissipation 190
Hexokinase distribution 257
Hill coefficient 110
Hippocampal pyramidal neurons 481
Hippocampal slice culture 197
Hippocampus 197
Histamine 473
Hormone-mediated Ca^{2+} transients 1
Human β-cell 184
Human endothelial cells 184
Human insulin-secreting cells 181
Human malignant glioma cells (U 118 MG) 332
Human placenta 157
Human skeletal muscle 136
Human submandibular gland 203
Hybridization signals 252
5-Hydroxytryptamine 492
Hyperammonaemia 524
Hypercapnia 86
Hyperglycaemia 444
Hyperpolarisation-activated current 121
Hyperpolarization activated cation current 437
Hypertrophied ventricular myocyte 47
Hypoglutaminaemia 524
Hypotonic shock 463

I

IIA Na channels 399
Ileal Na^+-sulphate cotransport 252
Ileum 252
Immunofluorescence 343
In vitro perfusion 157
Inactivation modes 399
Indo-1 169
Indo-1 fluorescence 414
Indomethacin 219
Inner ear 56
Inositol 455
Inositol phosphates 295
Inositol 1,4,5-triphosphate 355
Inositol-triphosphate-sensitive Ca^{2+} stores 233
$InsP_3$ 325
$InsP_3$-dependent Ca^{2+} release 325
Insulinopenia 444
Insulin-secreting cells 181
Insulin-secretion 184
Interleukin-1 365
Interleukin-1 beta (IL-1β) 365
Internal Ca^{2+} 71
Internal calcium 355
Intestine 343, 524
Intracellular adenosine triphosphate (ATP) 110
Intracellular ATP 184
Intracellular Ca^{2+} 169
Intracellular Ca^{2+} concentration 533
Intracellular Ca^{2+} signals 181
Intracellular calcium 33, 102, 414, 463
Intracellular calcium variations 162
Intracellular Cl^- concentration 24
Intracellular microelectrodes 143
Intracellular pH 270
Intracellular recording 481
Intracellular redistribution 332
Inward currents 473
Inward rectification 317
Ion channels proteins 500
Ion transport 543
Ionic currents 414

Ionotropic glutamate receptors 197
Iontophoresis 197
Ischaemia 96
Islets of Langerhans 184
Isoguvacine 244
Isolated single muscle fibres 102
Isolated ventricular heart cells 547
Isoprenaline 121
Isoproterenol 295

J

JMV-180 233
Juvenile rats 450
Juxtaglomerular cells 42

K

K channels 553
K^+ channel 187
K^+ channels 17, 387, 543
K^+ conductance 543
K conductance 143, 151
K^+ conductance basolateral 543
K^+ current 71, 110
K^+ outwart current 547
K_{Ca} channels 378
K^+-dependent exit mechanism for Cl^- 24
Kidney 524
Kidney micropuncture 219
Kinase 389
Kinin 219
Kinocilium 162

L

Lampetra japonica 373
Lamprey 373
Lanthanum 33, 517
Lanthanum (La^{3+}) 463
Linker insertion mutagenesis 500
Lipid peroxidation 432
Lipolysis 96
Long-term potentiation 481
L-type calcium channels 348
Lymphoid tissues 343

M

M cells 343
Macula densa 42
Malignant glioma cells (U 118 MG) 332
Mammalian isolated vestibular type I hair cells 162
Mammary epithelial cells 533
Mandibular salivary glands 24
Mechanical stimulation 533
Mechanosensitive Cl^- conductance 181
Mechanotransduction 162
Medullary collecting duct 225
Medullary pressor area 556
Megakaryocytes 355
α-Melanophore-stimulating hormone (α-MSH) 244
Melanotrope cells 244
Membrane potential 17
Membrane potential hyperpolarization 110
Membrane thickness 64
Mesenteric artery 301
Mesenteric vascular smooth muscle 270
Metabolic stress 547
Metabotropic glutamatergic response 197
Methionine sulphoximine 524
α, β-Methylene ATP 129
Metoclopramide 492
Mg^{2+} 257, 437
Microcystin 389
Microelectrode studies 543
Micropuncture 219
Mitochondria-bound hexokinase 257
Mitochondrial respiration 257
MQAE 24
α-MSH secretagogues 244
Multicellular spheroids 332
Multi-domain ion channel proteins 500
Muscle cell line 277
Muscle fibres 80
Muscle mechanics 289
Myocardium 432
Myocytes 47, 64, 422, 437, 553
Myofilaments 550
Myogenesis 517
Myosin phosphorylation 301
Myotubes 517

N

N 178
Na^+ absorption 543
Na^{2+} channels 309
Na channels 406
Na^+ channels 543
Na^+ current 414
Na^+ depletion 219
Na^+, K^+-ATPase expression 343
NAD 378
Na^+-dependent conductance 414
NADH 378
Na-HCO_3 cotransport 143, 151
NaIIA channel 309
Na^+-nucleoside 381
Na^+-sulphate cotransport 252
N^6-cyclohexyladenosine (CHA) 225
Nd: YAG laser 169
Nerve-growth-factor 510
N-ethylcarboxamidoadenosine (NECA) 225
Neural pathway 556
Neurons spiny 187
Neuropeptide Y 244
Newborn 450
Nicotinic receptor channels 129
Nifedipin 33
Nifedipine 1, 463, 473
Niflumic acid 473
Nigericin method 332
N-isobutyl-N-methylamiloride (MIBA) 24
5-Nitro-2-(3-phenylpropylamino)-benzoate (NPPB) 203
NMDA receptor activation 197
N-methyl-D-aspartate (NMDA) 197
Non-fusing muscle cell line 277
Nonselective cationic channels 56
Non-shivering thermogenesis 450
Norepinephrine 264
Nystatin 210

O

O_2 178
Okadaic acid 129, 389, 510
1-Oleoyl-2-acetylglycerol (OAG) 510
Oncogenes 17
Oocytes 136, 381, 399, 406
Open channel block 437
Opioid 365
Organic osmolyte fluxes 463
Osmolality extracellular 463
Osmolyte fluxes 463
12 O-tetrade-canoyl-phorbol 13-acetate (TPA) 455
Outer hair cells 56
Outwart currents 473
Outward-rectification 317
Ovary cell line 309
Overexpression of frequenin 71
Oxidative metabolism 444
Oxidative phosphorylation 257
Oxygen free radicals 432

P

P_2 purinoceptors 533
Pacemaker current (i_f) 64
Pacemaking 121
Pancreatic acinar cells 233, 325, 455
Pancreatic β-cells 187
Parathyroid hormone 1
Patch clamp 181, 203, 277, 399, 406, 414, 500
Patch-clamp 17, 56, 348, 487
Patch-clamp technique 9
Patch pipettes 487
PC12 cells 492
Pericytes 9
Periodic blockade of thermoregulatory thermogenesis 450
Peritoneal exudate CTL (PEL) 422
Permeabilized acinar cells 233
Pertussis-toxin-insensitive G-proteins 295
P-glycoprotein 181
pH, cytoplasmic 332
pH sensitivity 270
pH-sensitive fluoroprobe 332
Pheochromocytoma cells 492
Pheochromocytoma (PC12) cells 510
Phorbol ester 1
Phorbol esters 80
4β-Phorbol 12-myristate 510
Phorbol 12-myristate 13-acetate 129
Phosphatase 389
Phosphatase inhibitors 510
Phosphatase inhibitors 389
Phosphatases 510
Phosphorylation 500
Photobleaching 169
Photolysis 550
Photoregeneration 373
Photosensory pineal neurons 373
pH-sensitive fluoroprobe 332
Pineal neurons 373
Pituitary cells 414
PKC inhibitor staurosporine 455
Placenta 157
Placental transfer 157
Planar patches 487
Plasmalemma of chromaffin cells 348

PMA 129
Point mutations 406
Porcine thick ascending limb cells 1
Potassium channels 33, 553
Potassium conductance 197
Potassium current 47, 317
Potassium gradient 543
Potassium single-channel properties 17
Primary culture 225
Primary cultures of renal proximal cells 33
Prostaglandin inhibitors 219
Protein kinase A and C 547
Protein kinase A modulation 500
Protein kinase C activation 455
Protein kinase C activators 510
Protein kinases 80
Protein phosphorylation 129
PTH-mediated Ca^{2+} transients 1
"P"-type ATPase 295
Pulmonary arterial smooth muscle cells 378
Purinergic receptor agonists 184
Purinoceptor 533
Pyrophosphorylated nucleotides 533

R

Ramiprilat 219
Rat brain IIA Na channels 406
Receptor affinity state 455
Receptors 1
Recoverin 71
Rectification 317
Rectifier K^+ current 510
Rectifier potassium current 553
Regression from hypertrophy 47
Renal amino acid metabolism 524
Renal circulation 225
Renal cortex 381
Renal cortical thick ascending limb cells 1
Renal inner medullary collecting duct cells 463
Renal Na^+-nucleoside cotransport system (N2) 381
Renal NH_3 metabolism 524
Renal proximal cells 33
Renal proximal tubules 143, 151
Renal renin gene 42
Renin mRNA levels 42
Renin secretion 42
Reoxygenation 547
Respiratory gas analysis 178
Retinal microcirculation 9
Retinal pericytes 9
rhEPO 157
Rhythmicity 473
RIIA Na^+ channel 500
Rostral ventrolateral medullary pressor area 556
Rous-sarcoma-virus 17
RS-α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) 197
Ryanodine 422

S

Salivary epithelium 203
Salivary glands 24
Sauvagine 244
Scholander technique 178
Second messenger 463
Secretion 348
Se-independent glutathione peroxidase 432
Sensitization 355
Shear stress 264
Short-circuit current (I_{sc}) 543
Shortening velocity 384
Simultaneous flash photolysis 169
Single cell 121
Single myocytes 437
Single-channel properties 277
Single-channel recording 487
"Single-ion" i_f channels 64
Single-nephron filtration fraction 219
Single-nephron GFR 219
Single-nephron glomerular blood flow 219
Sino-atrial node cells 437
Sino-atrial node myocytes 64
Skeletal muscle 80, 102, 136, 257, 444, 517
Skeletal muscle fibre types 384
Skinned cardiac muscle 550
Skinned smooth muscle 301
Small-intestinal sulphate absorption 252
Smooth muscle 270, 301, 378
Smooth muscle cells 9, 110, 473
Snake venom phosphodiesterase 533
Sodium channel 136, 399, 500
Sodium reabsorption 225
Sodium uptake 225
Sodium-transporting epithelia 210
Somatotrope 414
Spectral sensitivity 373
Spiny neurons 187
Spontaneous transient inward currents ($STIC_s$) 473
Sr^{2+} 437
Sr^{2+} block 437
Staurosporine 455
Stepping motors 178
Streptozotocin-diabetic rats 444
Stretch activation 384
Stretch-shortening cycle training 289
Striated intralobular ducts 24
Subendocardium 432
Submandibular gland duct cell line (HSG) 203
Substance P 473
Suckling 450
Sulphate absorption 252
Suramin 533
Sympathetic nerves activities 556
Sympathetic neurons 129

T

T lymphocytes 422
Tetraethylammonium (TEA^+) 317
Tetrapotassium bis(O-aminophenoxy)-ethane-N,N,N′,N′,-tetraacetic acid (BAPTA) 197
Tetrodotoxin 309, 348
Tetrodotoxin (TTX) 136
Thapsigargin 1, 233, 325
Thermogenesis 450
Thermoregulatory thermogenesis 450
Thiadiazinone EMD 57033 550
Thin-filament-linked regulation of smooth muscle concentration 301
Three gas components 178
Tolbutamide 187
Tracheal epithelium 543
Trachealis muscle 295
Training 289, 444
Transepithelial resistance 225
Transformation 17
Transplant rejection 422
Treadmill running 257
1,4,5-triphosphate ($InsP_3$) 455
Tubule segment 225
Tumor necrosis factor alpha (TNFα) 365
Two-kidney/one-clip rats 42
Type I vestibular hair cells 162

U

U73122 233
UL-FS 49 block 64
Umbilical blood flow 190
Uridine diphosphate (UDP) 533
Uridine triphosphate (UTP) 533
Urinary bladder 210
UV receptor 373

V

Vanadate 295
Vascular smooth muscle 270, 301
Vascular tone 270
Vasodilation 9
Vasomotor system 556
Ventricular myocardium 432
Ventricular myocytes 47, 422, 553
Ventrolateral medulla 556
Verapamil 33, 295, 463
Vestibular type I hair cells 162
Video imaging microscopy 244
Vitamin E 432
Voltage clamp 129, 492, 500
Voltage dependence of activation 547
Voltage gating 500
Voltage-sensitive dyes 210
Volume-activated chloride current 181

X

Xenopus laevis 244
Xenopus laevis oocytes 252, 381
Xenopus oocyte 399, 500
Xenopus oocyte macropatches 406
Xenopus oocytes 136

Z

Zinc 481
Zinc chelator 481